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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,836	09/15/2003	Iulian Gheorghe	02-36	1217

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EXAMINER

EDMONDSON, LYNNE RENEE

ART UNIT PAPER NUMBER

1725

DATE MAILED: 08/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/662,836

Applicant(s)

GHEORGHE, IULIAN

Examiner

Lynne Edmondson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,8-15,19,22-28,30 and 34-52 is/are pending in the application.
- 4a) Of the above claim(s) 34-52 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 30 is/are allowed.
- 6) ☒ Claim(s) 8-12,19,22-26 and 28 is/are rejected.
- 7) ☒ Claim(s) 13-15 and 27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Election/Restrictions*

1. Claims 34-52 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 6/23/05.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 8-12, 19, 22-26 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda et al. (WO 01/85382 A1) in view of Chakrabarti et al. (US 2006/0083654 A1) and Park (USPN 4589932).

Fukuda teaches a method of friction stir welding of precipitation hardened (pre-weld aging) Al alloy by aging before and after welding (abstract). The post-weld aging occurs at about 374 F (190 C) for about 1.5 to 10 hours (paragraphs 10, 12 and 16). 1xxx and 6xxx series Al are preferably used however the alloys are not further disclosed. Neither are the time and tempering schedules further disclosed.

Chakrabarti teaches aging of Al alloys including but not limited to series 7xxx (paragraph 2) such as 7055 ( paragraph 7), 7050 and 7150 (paragraph 12) using known

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tempering schedules which include but are not limited to T6, T73, T74, T76 (paragraphs 7, 9, 20, 82 and 83) which take place at typical temperatures of 150 F to 325 F for a typical period of hours (paragraphs 18-20). The members are friction stir welded (paragraph 124).

Park teaches aging of Al alloys in series 7xxx such as 7475 (col 9 lines 30-34) using known tempering schedules which include but are not limited to T8 which take place at typical temperatures of 220 F to 350 F for a typical period of hours (figures 2, 3, col 1 lines 25-61, col 6 lines 56-67, col 13 line 45 – col 14 line 9 and Table VII). The members are welded (col 14 lines 63-68).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use known tempering schedules for 7xxx series Al to maintain the desired strength, stiffness and ductility in both the weld zone and the heat-affected region in a simple and predictable manner. Al alloys in the 6xxx and 7xxx series are well known, cost-effective aircraft alloys.

### ***Response to Arguments***

4. Applicant's arguments with respect to claims 1, 8-12, 14, 15, 19 and 22-28 have been considered but are moot in view of the new ground(s) of rejection.

***Allowable Subject Matter***

5. Claims 13-15 and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Claim 30 is allowed.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chakrabarti et al. (USPN 6972110 B2).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynne Edmondson whose telephone number is (571) 272-1172. The examiner can normally be reached on Monday through Thursday from 6:30 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lynne Edmondson  
Primary Examiner  
Art Unit 1725

*LE*  
*8/3/06*

LRE